Annual Report of Operations for Year 2021

To comply with NPDES General Permit No. WAG130000 for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington

NPDES # for your Facility:
WAG130020

Facility & Owner Information

Facility Name:
Keta Creek Hatchery Complex

Operator Name (Permittee):
Hugo Hernandez

Address:
39015 172nd Ave SE
Auburn WA 98092

Email: Hugo.Hernandez@muckleshoot.nsn.us
Phone: 253-876-3341

Owner Name (if different from operator):
Muckleshoot Indian Tribe

Email:
Phone:

Best Management Practices (BMP) Plan

Has the BMP Plan been reviewed this year? ■ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ■ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.

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Operations and Production

Total harvestable weight produced in the past calendar year in pounds (lbs): 83,262 lbs

Pounds of food fed to fish during the maximum month: 10,159 LBS

List the species grown or held at your facility and the annual production of each in gross harvestable weight. If fish were released rather than harvested, list the weight at time of release.

Species	Fish Produced	Receiving Water(s) to which Fish were Released	Month Released/ Spawned
Chum Salmon	5,431,696	Crisp Creek	~364 FPP
Coho Salmon	712,848	Crisp Creek	~16 FPP
Coho Salmon	496,864	Transfer to Elliot Bay Tribal Net Pen	~20.5FPP

Fill in the table below with production numbers from the past year. List the **maximum** amount of fish on-site and the maximum amount of food fed **per month**.

Month	Total Fish (lbs)	Fish Feed (lbs)	Month	Total Fish (lbs)	Fish Feed (lbs)
January	43891	5850	July	19,517	4868
February	54,194	5023	August	16,456	3712
March	51,562	8214	September	20,936	4488
April	69,796	10159	October	30,462	4017
May	36,674	3006	November	33,484	3690
June	13,388	2610	December	36,937	2860

Additional Comments: During the months of February, March, April, and May fish are transferred and released.

Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

Type of Solid Disposed	Date Disposed	Location Disposed
Juvenile coho	1/1/21-12/31/21	Upland disposal
Juvenile chum	10/30/21-5/5/21	Upland disposal
Solids collected in the SB	10/15/21	Tribal Landfill
Additional Comments:		

Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week). Attach additional pages, if necessary. Include total mortalities from all causes.

Date	Cause of Deaths	Steps Taken to Correct Problem	Pounds of Fish
2021	No mass mortality		
Additional Comments:			

Noncompliance Summary

Include a description and the dates of noncompliance events (including spills), the reasons for the incidents, and the steps taken to correct the problems. Attach additional pages, if necessary.

KETA Creek complex was in compliance for the year of 2021.

Inspections & Repairs for Production & Wastewater Treatment Systems

Date Inspected	Date Repaired	Description of System Inspected and/or Repaired
Daily	Weekly maintenance	Instrumentation and water filtration equipment monitored weekly.

Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year.**
Describe the use of each drug/chemical in more detail on the following pages.

Used in the past year?	Drug or Chemical
☐ Yes ◪ No	Azithromycin Was not used, fill box for "No" will not fill.
▣ Yes ☐ No	Chloramine-T: ***See additional reporting requirements on page 7***
☐ Yes ▬ No	Chlorine
☐ Yes ▬ No	Draxxin
☐ Yes ▬ No	Erythromycin - injectable
▣ Yes ☐ No	Erythromycin - medicated feed
▣ Yes ☐ No	Florfenicol (Aquaflor)
▣ Yes ☐ No	Formalin - 37% formaldehyde: ***See additional reporting requirements on page 7***
☐ Yes ▣ No	Herbicide - describe:
☐ Yes ▣ No	Hormone - describe:
☐ Yes ▣ No	Hydrogen Peroxide: ***See additional reporting requirements on page 7***
▣ Yes ☐ No	Iodine: ***See additional reporting requirements on page 7***
☐ Yes ▬ No	Oxytetracycline
☐ Yes ▬ No	Potassium Permanganate: ***See additional reporting requirements on page 7***
☐ Yes ▣ No	Romet
☐ Yes ▣ No	SLICE (emamectin benzoate)
☐ Yes ▣ No	Sodium Chloride - salt
☐ Yes ▣ No	Vibrio vaccine
▣ Yes ☐ No	Other: Aquamycin 100
☐ Yes ☐ No	Other:

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Parasite-S		Generic Name: Formalin	
Reason for use: Prophyalactic use for egg treatment			
■ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment (specify units): Acc. to Label	Total quantity of formulated product used in past year (specify units): 171.26 Gallons	
Date(s) of treatment: 1/1 2021-12/31/21			Total number of treatments in past year: 210
Maximum daily volume of treated water: 7350 Gallons	Treatment concentration (specify units): .0502 ppm-.619 ppm	Duration and frequency of treatment(s): 15 minutes every 2-3 days and weather dependent	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ■ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ■ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: All treated incubation water discharges into the KETA clarifier. As the clarifier discharges it mixes with, KETA complex effluent water			

Brand Name: Bio-Oregon feed		Generic Name: AquaFlor	
Reason for use: Treatment for Bacterial cold water disease			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment: Depends on FPP and DI	Total quantity of formulated product used in past year (specify units): 1904	
Date(s) of treatment: 3/20/21-7/12/21			Total number of treatments in past year: 2
Maximum daily volume of treated water: 11,700 gallons	Treatment concentration (specify units): 15 mg/kg	Duration and frequency of treatment(s): 10 days at 5 feedings per day	
Method of application:	☐ Static Bath ☐ Flow-through	■ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	■ Other (describe): Rearing Circular Tanks
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ■ Settling basin	☐ Septic System ☐ Publicly owned treatment works	■ Other (describe): DF to EFline SB
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: Effluent water passes through the drum filter and solids flow to the settling basin.			

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Bio-Oregon Feed		Generic Name: Aquamycin 100	
Reason for use: BKD treatment			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment (specify units): Acc. to Label	Total quantity of formulated product used in past year (specify units): 1720lbs	
Date(s) of treatment: 10/27/21-11/23/21			Total number of treatments in past year: 1
Maximum daily volume of treated water: 738,000 gallons	Treatment concentration (specify units): 100 grams/lb	Duration and frequency of treatment(s): 28 days 4 times a day	
Method of application:	☐ Static Bath ■ Flow-through	■ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	■ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: Ponds were vacuumed and solids discharged into to the clarifier.			

Brand Name: Halamid Aqua		Generic Name: Chloramine T	
Reason for use: Env Gill/Bacteria disease			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment: 250-363	Total quantity of formulated product used in past year (specify units): 6589 Grams	
Date(s) of treatment: 3/22/21-5/11/21			Total number of treatments in past year: 25
Maximum daily volume of treated water: 60060 liters	Treatment concentration (specify units): 12-18 ppm	Duration and frequency of treatment(s): 60 minutes once a day for three days	
Method of application:	■ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	■ Other (describe): Circulars
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	■ Other (describe): Discharged
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: Chlorine neutralized with Sodium Thio-sulfate			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	189 Liters
Desired Static Bath Treatment Concentration	100 µg/L
Volume of Product Needed	1.8 Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 1:100 dilution-100 ppm Active Ingredient: 10% Povidone Iodine Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	23,696,640 liters Specify Units
Maximum % of Facility Discharge Treated	.000008 % of Total Discharge

Flow-Through Treatments	
Tank Volume	1060 Liters
Calculated Flow Rate	19 Liters/Minute
Duration of Treatment	15 Minutes
Desired Flow-Through Treatment Concentration of Product	1600 µg/L
Amount of Product to Add Initially	.4 Liters Product
Amount of Product to Add During Treatment	40 mL/Minute
Total Volume of Product Needed	6 Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 6000 ml Active Ingredient: Formalin .619 ppm Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	15,922,080 liters Specify Units
Maximum % of Facility Discharge Treated	.000038 % of Total Discharge

Aquaculture Drugs and Chemicals (cont'd)

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Static Bath Treatments	
Tank Volume	20020 Liters
Desired Static Bath Treatment Concentration	12-18 µg/L
Volume of Product Needed	250-363 GRAMS Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: 25% chlorine Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	15,082,560 liters Specify Units
Maximum % of Facility Discharge Treated	.0013 % of Total Discharge

Flow-Through Treatments	
Tank Volume	Liters
Calculated Flow Rate	Liters/Minute
Duration of Treatment	Minutes
Desired Flow-Through Treatment Concentration of Product	µg/L
Amount of Product to Add Initially	Liters Product
Amount of Product to Add During Treatment	mL/Minute
Total Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

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Changes to the Facility or Operations

Describe any changes to the facility or operations since the last annual report.
There has been no changes to the hatchery facility or operations since the 2020 annual report.

Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Hugo Hernandez	Green River Team Leader
Printed name of person signing	Title
	01/19/2022
Applicant Signature	Date Signed

Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191

Washington Hatchery Annual Report

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